

What I claim is:

1. A method of obtaining sequences which bind to the surface of a bacterial spore comprising the steps of:

5 (a) mixing phage from a Phage Display library with spores;

(b) incubating the product of step (a) for sufficient time to allow the phage to complex with the spores;

(c) centrifuging the product of step (b) to obtain the phage-spore complexes;

10 (d) washing the phage-spore complexes repeatedly;

(e) eluting the phage from the phage-spore complexes with elution buffer;

(f) neutralizing the eluate,

(g) amplifying the eluted phage,

15 (h) repeating the above steps to perform 3 to 4 rounds of biopanning;

(i) purifying individual clones;

(j) amplifying purified clones, then extracting genomic DNA from each preparation to determine the DNA sequence encoding peptides; and

20 (k) subjecting the peptides indicated by the DNA sequence to binding studies to determine ability of the peptides to bind to the target spores.

25 2. A peptide which binds to B. subtilis chosen from peptides of 5-12 amino acids containing the sequence Asn-His-Phe-Leu (Seq. ID No. 1).

30 3. A peptide of claim 2 containing the sequence Asn-His-Phe-Leu-Pro (Seq. ID No. 39).

35 4. A peptide which binds to B. anthracis chosen from peptides of the sequences Thr-Ser-Glu-Asn-Val-Arg-Thr (TSQNVRT) (Seq. ID No. 40) or a sequence of the general formula Thr-Tyr-Pro-X-Pro-X-Arg (TYPXPXR) wherein X is a Ile, Val or Leu.

5. A peptide of claim 4 having the sequence TSQNVRT.

6. A peptide of claim 4 having the general formula Thr-Tyr-Pro-X-Pro-X-Arg (TYPXPXR) wherein X is a Ile, Val or Leu.

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7. A peptide of claim 6 wherein, in both instances, X is Ile.

8. A peptide of claim 6 wherein, in at least one instance, X is Val.

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9. A peptide which binds to B. cereus chose from peptides having the sequence Val-Thr-Ser-Arg-Gly-Asn-Val (VTSRGNV) (Seq. ID No. 100) and Ser-Pro-Leu-X<sub>1</sub>-X<sub>2</sub>-His wherein X<sub>1</sub> is His or Arg and X<sub>2</sub> is Arg or Lys (SPLX<sub>1</sub>X<sub>2</sub>H).

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10. A composition of matter comprising a peptide ligand which binds with specificity to the surface of a bacterial spore, said ligand being bound to a solid support.

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11. A composition of claim 10 wherein the solid support is a polymeric support.

12. A composition of claim 10 wherein the solid support forms a filter.

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13. A composition of claim 10 wherein the solid support is a tape or sponge.

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*sub B2*

*add A1*

*add B1*

*add D1*

*add C3*